

### **REMARKS/ARGUMENTS**

The Applicants originally submitted Claims 1-21 in the application. In a preliminary amendment, the Applicants have amended Claims 1-4, 7-9, 14-17 and 21. In the present response, the Applicants have amended Claims 1-2, 4, 7-9, 14-16 and 21. Support for the amendment can be found in the original specification at paragraphs 35-37 and Figures 3-4. Accordingly, Claims 1-21 are currently pending in the application.

#### **I. Rejection of Claims 1, 3, 6, 8, 10 and 13 under 35 U.S.C. §103**

The Examiner has rejected Claims 1, 3, 6, 8, 10 and 13 under 35 U.S.C. §103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of U.S. Patent No. 4,562,425 to Turner, *et al.*, and in further view of U.S. Patent No. 6,553,087 to Alelyunas, *et al.* The Applicants respectfully disagree since the cited combination does not teach or suggest recognizing a candidate symbol as being a zero-amplitude symbol when the candidate symbol is within a zone having a boundary formed by a set of points that are equidistant between an origin of a constellation and a nearest one of four symbols proximate thereto as recited in amended independent Claims 1 and 8.

The Examiner recognizes that the AAPA and Turner, individually or combined, do not teach or suggest recognizing a zero-amplitude symbol. (*See Examiner's Action*, page 5.) To teach such recognizing, the Examiner cites Alelyunas. (*See Examiner's Action*, pages 5-6.) Alelyunas is directed to an interpolating bandpass filter for packet-data receiver synchronization. (*See column 1, lines 16-19.*) Alelyunas discloses a receiver having a slicer that chooses from a set of possible valid receivable levels a level, or "point" which most closely matches the current received signal level. (*See column 3, lines 41-43.*) Alelyunas provides no teaching or suggestion

that the slicer employs a zone as recited in Claims 1 and 8 to determine if a symbol is a zero-amplitude symbol. More specifically, Alelyunas does not teach or suggest recognizing a candidate symbol as being a zero-amplitude symbol when the candidate symbol is within a zone having a boundary formed by a set of points that are equidistant between an origin of a constellation and a nearest one of four symbols proximate thereto as recited in amended independent Claims 1 and 8.

Thus, Alelyunas does not cure the above deficiency of the combination of AAPA and Turner.

Since the cited combination of AAPA, Turner and Alelyunas does not teach or suggest each element of amended independent Claims 1 and 8, the cited combination does not provide a *prima facie* case of obviousness of independent Claims 1 and 8 and Claims dependent thereon. As such, Claims 1, 3, 6, 8, 10 and 13 are not unpatentable in view of the cited combination. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 1, 3, 6, 8, 10 and 13 and allow issuance thereof.

## **II. Rejection of Claims 2, 4-5, 7, 9, 11-12 and 14 under 35 U.S.C. §103**

The Examiner has rejected Claims 2, 4-5, 7, 9, 11-12 and 14 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Turner and Alelyunas, and in further view of U.S. Patent No. 5,471,508 to Koslov. The Applicants respectfully disagree.

As discussed above, the cited combination of AAPA, Turner and Alelyunas, does not teach or suggest each element of amended independent Claims 1 and 8. Koslov has not been cited to cure the noted deficiencies of the cited combination but to teach the subject matter of dependent Claims 2, 4-5, 7, 9, 11-12 and 14. As such, the cited combination does not provide a *prima facie* case of obviousness of amended Claims 1 and 8 and Claims dependent thereon. The Applicants,

therefore, respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 2, 4-5, 7, 9, 11-12 and 14 and allow issuance thereof.

### **III. Rejection of Claims 15, 17 and 20 under 35 U.S.C. §103**

The Examiner has rejected Claims 15, 17 and 20 under 35 U.S.C. §103(a) as being unpatentable over Alelyunas in view of a portion of the textbook prepared by Rappaport, AAPA and in further view of Turner. The Applicants disagree.

As discussed above, the cited combination of Alelyunas, AAPA and Turner does not teach or suggest recognizing a candidate symbol as being a zero-amplitude symbol when the candidate symbol is within a zone having a boundary formed by a set of points that are equidistant between an origin of a constellation and a nearest one of four symbols proximate thereto as recited in amended independent Claims 1 and 8. Rappaport has not been cited to cure this deficiency of the Alelyunas, AAPA and Turner but to teach an amplitude detector. (*See Examiner's Action*, pages 10-11.) The cited combination of AAPA, Turner, Rappaport and Alelyunas, therefore, does not provide a *prima facie* case of obviousness of amended independent Claim 15 which also includes recognizing a candidate symbol as being a zero-amplitude symbol when the candidate symbol is within a zone having a boundary formed by a set of points that are equidistant between an origin of a constellation and a nearest one of four symbols proximate thereto. As such, Claim 15 and Claims 17 and 20 which depend thereon are not unpatentable in view of the cited combination. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 15, 17 and 20 and allow issuance thereof.

**IV. Rejection of Claims 16, 18-19 and 21 under 35 U.S.C. §103**

The Examiner has rejected Claims 16, 18-19 and 21 under 35 U.S.C. §103(a) as being unpatentable over Alelyunas in view of Rappaport, AAPA, Turner and, and in further view of Koslov. The Applicants respectfully disagree.

As discussed above, the cited combination of AAPA, Turner, Alelyunas and Rappaport does not provide a *prima facie* case of obviousness of amended independent Claim 15. Koslov has not been cited to cure the noted deficiencies of the cited combination but to teach the subject matter of dependent Claims 16, 18-19 and 21. As such, the cited combination of AAPA, Turner, Alelyunas, Rappaport and Koslov does not provide a *prima facie* case of obviousness of amended Claim 15 and Claims dependent thereon. The Applicants, therefore, respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 16, 18-19 and 21 and allow issuance thereof.

**V. Conclusion**

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-21.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, PC

A handwritten signature in black ink, appearing to read "J. Joel Justiss", written over a horizontal line.

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